Space Weather Forecast

Issued on Sunday, 12 June 2022 at 13:23 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Slight chance of moderate-class X-ray flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Low in the last 24 hours, with minor Common class flares, primarily from the active region in the northeast disc, which is now considered as two separate regions although interconnected. Both are small however, so despite some growth being observed, especially in the westernmost region, only a very modest increase in activity has occurred. There are three other sunspot regions (for five total), however these are all small and simple. No Earth-directed CMEs (coronal mass ejections) have been observed.

Solar Wind / Geomagnetic Activity: The solar wind speed rose from background levels to be slightly elevated at around 450km/s, likely due to the influence of some fast winds from small and weak coronal holes. The interplanetary magnetic field strength was weak but with brief moderate peaks, strongest during the morning of the 12th, along with the faster solar wind speeds. The north-south component has mainly varied weakly, but had some moderately strong peaks along with a period of negative (southward) pointed field with the faster winds. Despite this geomagnetic activity was Quiet (Kp 1-2).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms detected.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be mainly Low through this period, with C-class flares likely and a slight chance of M-class flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Slightly elevated to elevated winds are expected to vary erratically through day 1 and day 2 (12th and 13th) from weak coronal hole fast wind influences, before likely rising more persistently to elevated levels with the fast wind from another more definite coronal hole later day 3 and day 4 (14th and 15th). Geomagnetic activity is expected to be mainly Quiet with Unsettled spells, but with a chance of isolated Active intervals

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	25	25	25	25
Very Active	R3 to R5 X	No	2	2	2	2

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	2	2
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.